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CERTAIN EXPERIENCES IN ANTEPIDEMIC MEASURES IN THE ARMY
IN THE GREAT FATHERLAND WAR

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Ye. I. Smirnov, Moscow

Twenty years have gone by since the victorious completion of the Great Fatherland War, in which the peoples of the USSR displayed a completely unprecedented mass heroism and wholehearted devotion to the socialist homeland. The Soviet state and public order passed the severe test with distinction and demonstrated the grandeur and invincibility of socialist forms of conducting the national economy and the production relations that correspond to those forms.

The war required the Soviet civilian and military health services, and every medical worker, to work intensively, to have special knowledge and experience in order to prevent epidemics and epidemic outbursts, and to be able to treat successfully wounds and the diseases caused by them. The war also dictated the necessity of the maximum utilization of the forces and funds which were at the disposal of the public-health agencies and institutions, and the necessity of administering them boldly and skilfully.

The completely unprecedented scope of the "traumatic epidemic" caused by the immediate participation of almost the entire adult male population of the country in the defense of the Motherland, and by the predominance of combat wounds over diseases among the soldiers and officers of the active army, caused a shortage of such physician specialists as general and specialized surgeons, as well as epidemiologists and bacteriologists. This circumstance required the organization of a military-medical administration which would guarantee the placing of the entire job of military medicine on the level of the achievements of scientific and

practical medicine. The Great Fatherland War, which arose at a moment when the Soviet troops in the borderland military districts had not yet been brought to combat readiness, immediately developed, on Soviet territory, into a simultaneous attack by German tank, infantry, and air units and armies which had had two years of combat experience in carrying out army and army-group offensive operations. The rapid rates of the advance of the German troops were accompanied by the seizure of Soviet territories and caused the forced evacuation of a tremendous number of the population in the areas adjacent to the front, and of industrial enterprises, to the eastern regions of the country.

These circumstances led to congestion in housing facilities and to the overloading of public transportation, public, cultural, and medical institutions, and public eating establishments. A result of this was the drop in the level of the sanitation-and-hygiene conditions and the rise in conditions contributing to the arising of epidemic diseases. The rate of sporadic cases of epidemic diseases among the public began to rise, and this required the civilian public health service to carry out a sharp intensification of the antiepidemic measures aimed at preventing epidemics of typhus, relapsing fever, and typhoid. The work done in this field in the rear areas of the country by public-health agencies and institutions and by public organizations became part of the history of the Great Fatherland War, as a mass heroic exploit of medical workers and the Soviet public, an exploit which contributed to the victorious feat of arms of Soviet fighting men in the fight against the German fascist usurpers.

With the transition of the Soviet Army to the offensive, and the liberation of the areas temporarily occupied by the German fascist usurpers, the public-health services were confronted by even more complicated tasks. The German usurpers had brought the population of the occupied areas to a state of complete impoverishment. The incidence of lice among the rural population was of mass proportions, and the rate of typhus was epidemic. Typhoid spread widely. This low state of the sanitation-and-hygiene conditions among the Soviet public was the result of the deliberate policy carried out by the administrative officials of fascist Germany.

Under these conditions it was necessary to apply tremendous efforts to restore the public health system and, with the aid of the military-medical service, to eliminate the mass disease rate immediately, especially the rate of typhus, which threatened to turn into an epidemic among the units and formations of the advancing Soviet Army.

Migratory processes, which took on tremendous scope in the army, especially in the army in the field, greatly complicated the epidemic situation. Against a background of a sharp drop in the sanitation-and-hygiene conditions among the population and troops, and an increase in the sporadic cases of epidemic diseases, they constituted the main peculiarity that determined the basic tasks of antiepidemic service. This peculiarity

required the steady and clear-cut carrying out of scientific-practical antiepidemic measures developed by general and military epidemiology.

Among these measures, the main role was played by timely diagnostics, the isolation of persons with epidemic diseases, bath-and-laundry and disinfection service, sanitation-and-epidemiological reconnaissance, and specific preventive treatment for infectious diseases.

Timely diagnostics, the isolation of persons with epidemic diseases, and the ban against evacuating them from the army and army-group areas were assured by the creation of mobile field infectious-disease and therapeutic hospitals in the armies in the field, and by the evacuation of that category of patients from the medical-sanitation battalions directly to those hospitals. This organizational measure precluded the sending of patients to second-line surgical mobile field hospitals, and any diagnostic errors made at the medical-sanitation battalions were quickly corrected by the physician specialists at the mobile hospitals when patients with incorrectly diagnosed diseases arrived there.

Cases of epidemic diseases among wounded patients represented a danger when there was a temporary overload of the front-line surgical hospitals and errors were made in antiepidemic work. There was an instance such as this on the Central Front. The evacuation of wounded patients from the front had to be carried out through a specially created classification-control evacuation hospital provided with specialists in infectious diseases and with internists.

The role of this organizational measure and the carrying out of the principle of treating patients with epidemic diseases locally are difficult to overevaluate in the antiepidemic protection of the troops and the civilian population. This can be demonstrated by a few figures. If one takes as 100 the entire number of soldiers and officers released from hospitals after having had epidemic diseases, the situation was as follows: those who had had typhus and had been released, upon recuperation, from hospitals in army and front regions in the first year of the war represented 74.6 and 20.4%; in the second, 93.8 and 2.1%; in the third, 81.8 and 11.8%; and in the fourth, 42.8 and 44.4%. Those who had been released from army and front hospitals after recuperation from typhoid were, in the first year of the war, 75.4 and 15.2%; in the second, 56.4 and 18.4%; in the third, 45.4 and 32.2%; and in the fourth, 35.1 and 52.9%. Approximately the same situation was observed among those suffering from other epidemic disease, particularly paratyphoids and dysentery. The persons bringing the corresponding totals to 100% were treated for epidemic diseases in hospitals which were not part of army and front hospital bases. As a rule, these hospitals were situated close to the rear-area boundaries of the front areas and were subordinate to the local evacuation points. In the second half of the war, when the front-line offensive operations ended in the forward movement of Soviet troops by 300-500 kilometers or more, the army and front hospital bases also inevitably moved forward,

and these functions of theirs were supposed to be carried out by the hospital bases of the local evacuation points.

The bath-and-laundry and disinfection service of replacement units, and of units and formations of the troops in the field, which, for the most part, represented sanitation-hygiene measures and only partially antiepidemic measures, was provided by field laundry and laundry-and-disinfection detachments, washing-and-disinfection companies, laundry-bathhouses, and bath-and-disinfection trains. During the war years these institutions carried out an extensive amount of extremely effective work, which played an important role in the antiepidemic protection of the troops. They gave baths to 107 million soldiers and officers in 1942, 230 million in 1943, 273 million in 1944, and 103 million in the first five months of 1945. They disinfected 73 million sets of uniform in 1942, 136 million in 1944, 168 million in 1944, and 62 million in the first five months of 1945. During the corresponding periods, 121, 224, 296, and 107 tons of underwear were washed.

The carrying out of sanitation-and-epidemiological reconnaissance and of specific prophylaxis of epidemic diseases was guaranteed organizationally by the sanitation platoons in the formations, by the sanitation-and-epidemiology squads, sections, detachments, and laboratories, sanitation-control points, and chief epidemiologists in the large units. As regards the scientific-methodology aspect and efficiency in operation, which played an important role in the timeliness, and consequently, the effectiveness of the measures taken, they were dependent upon the degree of knowledge of general and specific epidemiology, especially military. If one takes as 100 all the diseases, the share of epidemic diseases during the first year of the war was 9%; the second, 13.7%; the third, 7.15%; and the fourth, 6.1%. On the average for the entire war, these diseases came to 9%, including 4.4% for dysentery and hemocolitis, 2.7% for typhus, 0.6% for typhoid and paratyphids, 0.6% for tularemia, and 0.7% for other epidemic diseases.

These losses are incomparably less than the losses from infectious diseases in former wars. It is also necessary to keep in mind the complex epidemic situation which developed during the Great Fatherland War. From its very first day, the war took on a maneuver nature and was accompanied by a sharp change in the sanitation-and-hygiene conditions in the country, especially in the theaters of combat operations, and this greatly complicated the antiepidemic protection of the troops.

The assembly points of the regional military commissariats during the period when a large field army was being created were unable either to ascertain when persons were suffering from epidemic diseases, or to give inoculations, much less engage in the sanitation processing of the mobilized reinforcements. The medical service of the reserve units and the newly formed divisions of reserve armies were forced, by the course of events, to assume all these functions themselves.

The unprecedentedly large combat losses and the combat actions which did not cease for a long time required the systematic and extensive shipping of reinforcements to the front. Not infrequently this led to the failure to observe the time limits necessary for the sanitation processing of the reinforcements, particularly for the carrying out of the specified three-phase inoculations against typhoid and paratyphoids.

It was impossible to detain troop trains with reinforcements while they were en route, inasmuch as this would have adversely affected their timely arrival at the front. As a result, the isolation and observation points located at the major stations in the interior were not utilized for the purpose for which they were intended, and the sanitation-control points created at the beginning of the war operated not at those stations, but at the unloading stations in the areas in the rear of the front, where the decision to carry out sanitation processing was made not so much on the basis of the sanitation situation, as the combat situation on the front.

With the changeover of the Soviet Army to the offense, the epidemic situation became still more complicated. As was already emphasized, mass incidence of lice was noted among the rural population which was living in temporarily occupied territory, and the rate of typhus was epidemic in nature. On the territory of a few fronts alone, the medical service diagnosed and isolated 137,000 persons with typhus from among the civilian population. Of them, 54,000 were hospitalized at military hospitals.

The necessity of compensating for losses during the course of combat operations by calling up local inhabitants who had been liberated from the occupation, and who frequently were fused into the subdivisions and units without having passed through reserve units, introduced a new element that complicated the epidemiological situation and posed increased demands upon the sanitation-and-epidemiological service. This necessity was not reduced and was not depreciated by the large amount of attention that was devoted during the Great Fatherland War to the creation of the strategic reserves of the Supreme High Command.

However, this new element was not always taken into consideration. In particular, the medical service of the Don Front, and subsequently of the Central and Belorussian Fronts, did not understand the necessity of utilizing the slightest lull in combat operations for the active spotting of patients and for their isolation, as well as for the preparation and concentration, at definite places, of medical field equipment for the carrying out of complete and rapid sanitation processing of the personnel in the units.

By failing to check the sanitation-and-hygiene state of the dugouts previously occupied by the German troops, among whom there was a high incidence of typhus, the medical service authorized Soviet subdivisions and units to occupy them without preliminary disinfection. As a result, there was an outburst of typhus among the troops.

When the elimination of the outburst was in its final stages, the troops in the front were transferred to the Kursk area, where they constituted the basis of the newly created Central Front. However, the medical service at the front had not extracted the proper conclusions from that lesson, and preferred to extinguish, rather than to prevent, outbursts of typhus in the new and more complicated conditions when, among the troops, sporadic cases of disease were observed, and an epidemic of typhus raged among the population of Kurskaya and Orlovskaya Oblasts and the oblasts of Eastern Belorussia which had been liberated from the occupation.

This tactic led to a situation in which, from March 1943, the incidence of typhus at the front constituted 50% of the total incidence in the army in the field.

There were instances of lack of timeliness in sanitation-epidemiological reconnaissance. The medical service of the Northwest Front did not find out about the liberation of a camp of war prisoners who had been soldiers in the Soviet Army and who, without an exception, were lice-infested, until after they had marched several days, without medical examination or sanitation processing, during which time they had had contacts with soldiers in front units.

In the first half of the war, the medical service encountered two insignificant outbreaks of tularemia. It turned out that we had far from a complete knowledge of the mechanisms of transmittal of the pathogen from rodents to man, or the clinical manifestations of that disease depending upon the infection routes, and we proved to be inadequately trained to combat it.

The administrative officials of the military-medical service devoted a large amount of attention to the specific prophylaxis of epidemic diseases. The role of this division of antiepidemic protection of the troops increased from war to war, beginning in the end of the nineteenth century. It will continue to increase. However, the specific peculiarities of the combat operations of the troops during the Great Fatherland War posed new demands upon the vaccine preparations and immunization schemes.

It was previously emphasized that even in the reserve units during the first half of the war it was a common phenomenon that there was not enough time, from the moment a reinforcement arrived until the moment he was sent to the front, to carry out the three-phase inoculations against the intestinal group of epidemic diseases. One could not even think of the possibility of giving inoculations with this type of vaccine preparations in units in the army in the field. It was precisely this situation which dictated the necessity of the broad use of the NIISI deposited polyvaccine which had been inadequately studied and checked during the prewar years; and the necessity of authorizing single inoculations and of failing to use trivaccine, which had been more completely and more

broadly studied during the prewar years in mass experiments, but which required triple inoculations at weekly intervals.

The epidemic situation which developed and the procedure, which lasted throughout the subsequent operations, of compensating for the losses of personnel in the units by calling up the local population, created the necessity of carrying out not only planned vaccination among the troops in the field, but also vaccination on the basis of epidemic indications. Most frequently the latter had to be carried out under conditions of sporadic cases which had already begun, so as to prevent the development of epidemic outbreaks. And this required that the vaccine preparations possess such immunogenic properties and such simple and mass methods of their application that, with regard to the rapidity of encompassing large masses in inoculations and with regard to the time limits for the onset of general and local immunity, they would conform to their intended purpose.

This demand has not lost its great importance even today, although its fulfillment is confronted, and will continue to be confronted, by great difficulties, the overcoming of which, in a number of instances, does not yet appear to be possible. However, the search for a positive solution is worthy of the thoroughgoing labor expended on it.

The conclusions that evolve from the experience of the anti-epidemic support of combat operations of troops during the Great Fatherland War attest to the fact that:

1) epidemic outbreaks of diseases among the troops, without even mentioning epidemics, are not the inevitable concomitants of wars, but arise as a result of the unsatisfactory state of the authorized organizational structure of the medical service and the quantitatively inadequate and topically incomplete training of the necessary specialists, especially the administrative personnel in the service;

2) the antiepidemic experience of the past war cannot serve as the necessary basis, either in volume or in content, and peacetime antiepidemic work cannot serve as a sufficient basis for the training of the necessary specialists, unless that experience and that antiepidemic work are systematically supplemented by the conclusions evolving from the achievements of the technical, natural, and especially the biological and medical sciences;

3) the carrying out of planned inoculations among troops in the field is possible when the scheme for immunization with vaccine preparations is one-time, and the method is simple and capable of encompassing large masses of people in short periods of time. But inoculations on the basis of epidemic indications take on greater effectiveness when, in addition to this one-time principle and the simplicity of the method of application

of vaccine preparations, the latter possess high immunogenic properties assuring the onset of general and local immunity in short periods of time approaching, if not outstripping, the length of the incubation period for the corresponding epidemic diseases.

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